
Triniochloa gracilis (Gramineae: Pooideae), a New Species from
the Sierra Madre del Sur, Mexico, and a Key to the
Species of the Genus

Maricela Gómez-Sánchez

Escuela de Biología, Universidad Autónoma del Estado de Querétaro, 76010 Querétaro,
Querétaro, Mexico

Manuel González-Ledesma and Stephen D. Koch

Especialidad de Botánica, Instituto de Recursos Naturales, Colegio de Postgraduados,
56230 Montecillo, Edo. de México, Mexico

ABSTRACT. *Triniochloa gracilis*, a new species from the Sierra Madre del Sur in the Mexican states of Guerrero and Oaxaca, is described and illustrated. The new species is distinguished from all other species of the genus by its narrow panicles and short, equal glumes. A key to all of the known species of the genus is provided.

RESUMEN. Se describe e ilustra como especie nueva a *Triniochloa gracilis*, proveniente de los estados de Guerrero y Oaxaca en la Sierra Madre del Sur. La nueva especie es distinguida de todas las otras especies del género por las panículas estrechas y las glumas cortas e iguales. Se presenta una clave para todas las especies conocidas del género.

Triniochloa gracilis M. Gómez-Sánchez & M. González-Ledesma, sp. nov. TYPE: Mexico. Guerrero: Municipio de Heliodoro Castillo, 62 km de Filo de Caballo por terracería a Puerto del Gallo (7 km al oeste de El Jilguero), altitud 2790 m, 4 dic. 1993, M. González-Ledesma & C. Catalán H. 553 (holotype, CHAPA; isotypes, CAS, ENCB, IEB, MEXU, MICH, MO, QMEX, TEX, US, XAL). Figure 1.

Plantae perennes, caespitosae, non rhizomatosae, innovationibus extravaginalibus. Culmi gracilis, erecti vel geniculati, 30–60 cm alti, 0.5–0.8 mm diametri. Laminae foliorum planae, infera redactae ad nullae. Panicula erecta, 5–12(–15) cm longa, 3–5 mm lata, rami adpressi. Spiculae cum glumis aequalibus vel subaequalibus, $\frac{1}{4}$ – $\frac{1}{3}$ lemma longitudine; lemma 9–11(–12) mm longa, arista dorsale, 12–16 mm longa. Antherae 1.5–2.7 mm longae.

Plants caespitose, perennial, without rhizomes. Culms 30–60 cm tall, erect or geniculate at the base, very narrow, 0.5–0.8 mm diam., the upper nodes exposed. Innovations extravaginal. Leaf sheaths with thin, hyaline, fused margins and prominent nerves, glabrous to retrorsely scaberulous, the

lower sometimes pilose, the upper shorter than their internodes. Ligules 2–5 mm long, membranaceous. Leaf blades flat, conduplicate to involute when dry, pilose on the upper surface, glabrous below, generally 10–15 cm long and 1.3–1.7 mm wide, very reduced or absent at the lowest 2 or 3 nodes. Panicle erect, narrow, 5–12(–15) cm long and 3–5 mm wide, with a total of 7–15(–38) spikelets, the lowest node with 1–5(–8) spikelets; branches and pedicels appressed and glabrous to scaberulous. Spikelets 1-floreted. Glumes equal to subequal, 1.8–3.0 mm long, mostly hyaline to hyaline only near the apex. Lemmas 9–11(–12) mm long, 7-nerved, with a dorsal awn 12–16 mm long inserted on the upper half. Callus hispid, the lateral hairs longer than the dorsal, sometimes exserted at the angle between the glumes, but shorter than the glumes. Lodicules truncate and fused. Anthers 3, 1.5–2.7 mm long. Caryopsis free, 4.8–6.0 mm long; hilum linear, as long as the caryopsis.

Distribution and habitat. *Triniochloa gracilis* is known only from the Sierra Madre del Sur in the Mexican states of Guerrero and Oaxaca, where it grows in pine and oak forests at an elevation between 2700 and 3100 m. At the three sites where it has been collected, it is locally common.

Triniochloa gracilis is distinguished from all other species of *Triniochloa*, except *T. stipoides*, by its very short, equal to subequal glumes. From *T. stipoides*, it is easily separated by its narrow, erect panicles, short leaf blades, and relatively small anthers. At the type locality it was growing together with *T. stipoides*, from which it is easily distinguished by its slender habit and narrow panicles.

Paratypes. MEXICO. Guerrero: Municipio de Leonardo Bravo, 12 km de Filo de Caballo por la terracería a Cruz de Ocote, altitud 2765 m, 3 dic. 1993, M. González-Ledesma & C. Catalán H. 546 (ANSM, CHAPA, CII-

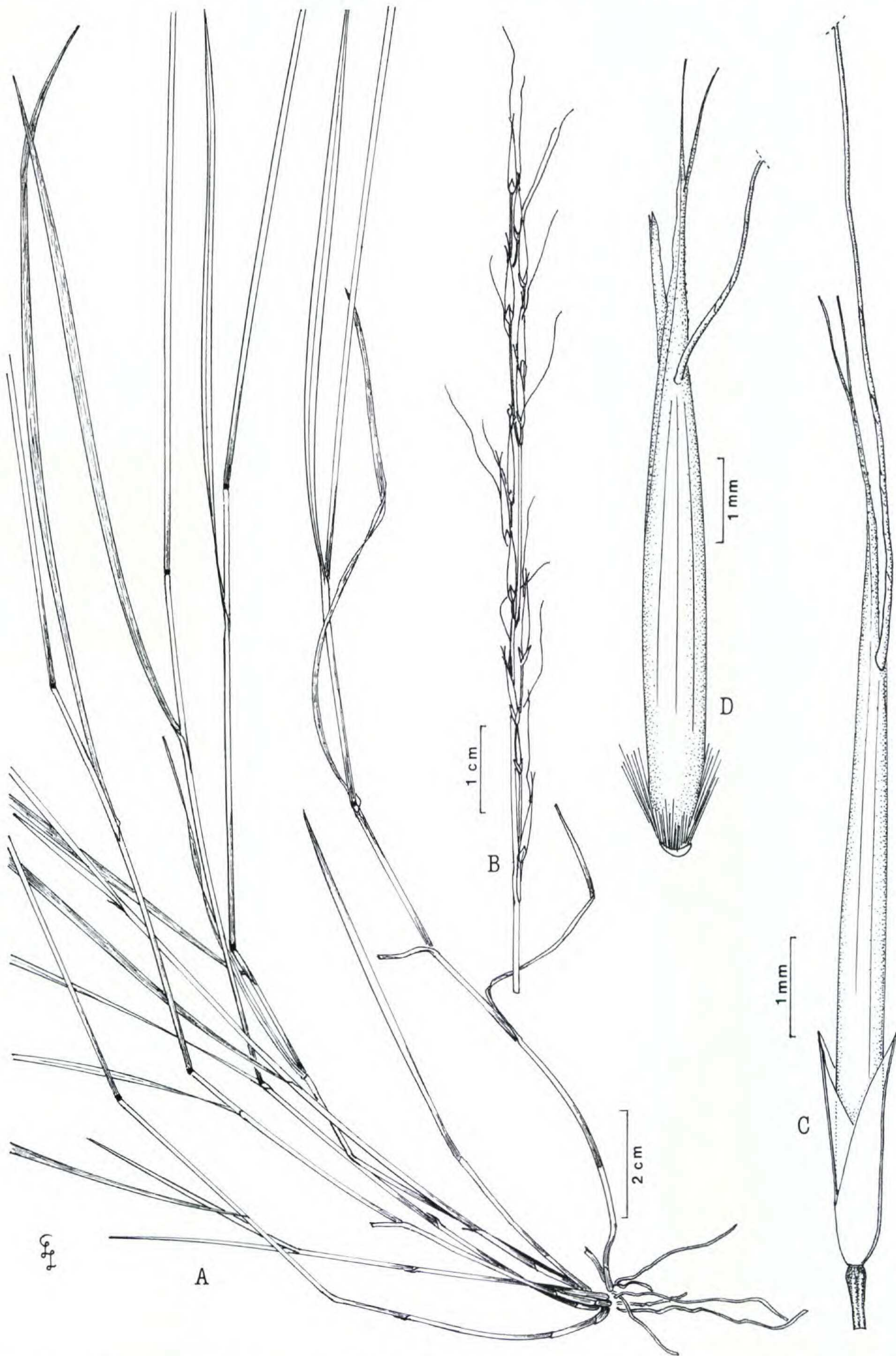


Figure 1. *Triniochloa gracilis* M. Gómez-Sánchez & M. González-Ledesma (González-Ledesma & C. Catalán H. 533). —A. Habit. —B. Panicle. —C. Spikelet. —D. Floret.

DIR, COCA, ENCB, IBUG, MEXU, MICH, QMEX, US).
Oaxaca: Distrito de Miahuatlán, 27 km de San José del Pacífico por terracería a Santa María Ozolotepec (1 km adelante de la Cieneguilla), altitud 3100 m, 8 dic. 1993,

M. González-Ledesma & C. Catalán H. 566 (CHAPA, IEB, MO, QMEX).

The only existing key for the genus (Hitchcock,

1913) includes only the three species known from Mexico at the beginning of this century. Since that time, *T. andina*, from Venezuela (Luces de Febres, 1953), and *T. talpensis* (González-Ledesma et al., 1995) and the present *T. gracilis*, both from Mexico, have been published. Consequently, the following key is presented as a means of summarizing our current knowledge of the genus.

- 1a. Glumes much shorter than the lemma.
- 2a. Panicle open, lax, the branches ascending to somewhat reflexed; glumes clearly unequal, the second 0.5–1.5 mm longer than the first and 4.5–6.0(–6.5) mm long; anthers (3.8–)4–6 mm long; leaf blades usually more than 15 cm long; widespread, from Mexico to Bolivia *T. stipoides* (HBK) Hitchcock
- 2b. Panicle narrow, erect, the branches and pedicels appressed; glumes equal or nearly so, the second less than 0.3 mm longer than the first and 1.8–3.0 mm long; anthers 1.5–2.7 mm long; leaf blades 15 cm or less long; Oaxaca and Guerrero, Mexico
 . . . *T. gracilis* M. Gómez-Sánchez & M. González-Ledesma
- 1b. Glumes, at least the second, as long as the lemma or nearly so.
- 3a. Leaf blades less than 2 mm wide; plants not rhizomatous.
- 4a. Ligule up to 10 mm long; panicle branches 3–4 at most nodes, at least some with 2–3 spikelets; known only from Morelos, Mexico
 *T. micrantha* (Scribner) Hitchcock
- 4b. Ligule 15 mm long, panicle branches

1–2 per node, each with only 1 spikelet; known only from Mérida, Venezuela . .

- *T. andina* Luces
- 3b. Leaf blades 3–5 mm wide; plants rhizomatous.
- 5a. Panicles less than 15 cm long, with fewer than 20 spikelets; leaf blades persistent after drying; rhizomes 0.8–1 mm diam.; known only from Chihuahua, Mexico *T. laxa* Hitchcock
- 5b. Panicle more than 15 cm long, with more than 30 spikelets; leaf blades, at least the basal ones, deciduous upon drying; rhizomes 2–3 mm diam.; known only from Jalisco, Mexico
T. talpensis M. González-Ledesma & M. Gómez-Sánchez

Acknowledgments. The first and third authors join with the second author in thanking M. C. Cesario Catalán H., of the Escuela Superior de Agricultura of the Universidad Autónoma de Guerrero, for his guidance, assistance, and company in the field with the second author.

Literature Cited

- González-Ledesma, M., M. Gómez-Sánchez, S. D. Koch & T. Mejía-Saules. 1995. *Triniochloa talpensis* (Poaceae: Pooideae), a new species with deciduous leaves from Mexico. *Novon* 5: 36–39.
- Hitchcock, A. S. 1913. Mexican grasses in the U.S. National Herbarium. *Contr. U.S. Natl. Herb.* 17: 181–389
- Luces de Febres, Z. 1953. Especies de gramíneas nuevas para la ciencia. *Bol. Soc. Venezolana Cienc. Nat.* 80: 3–29.